

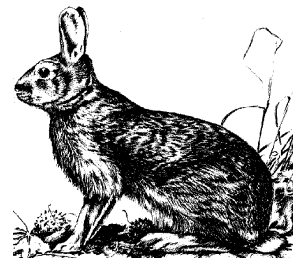
2008 IOWA AUGUST ROADSIDE SURVEY

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2008 IOWA UPLAND WILDLIFE POPULATIONS

This report is a summary of the 2008 Iowa August roadside survey. The survey is conducted each year by IDNR Enforcement and Wildlife Bureau personnel throughout the state of Iowa during the first half of August. Individuals involved in this survey should be credited for their efforts to collect these data during the early-morning hours. This survey is partially funded by the Pittman-Robertson Act, Federal Aid in Wildlife Restoration Program, Project Number W-115-R.

The August roadside survey generates data from approximately 215, 30-mile routes on ring-necked pheasants, bobwhite quail, gray partridge, cottontail rabbits, and white-tailed jackrabbits.

Counts conducted on cool mornings when the sun is shining, with heavy dew, and no wind yield the most consistent results. Comparisons between 2007 and 2008 are based on routes that are directly comparable between years (routes with no changes and routes started with good dew). Long-term trends are based on all routes run.

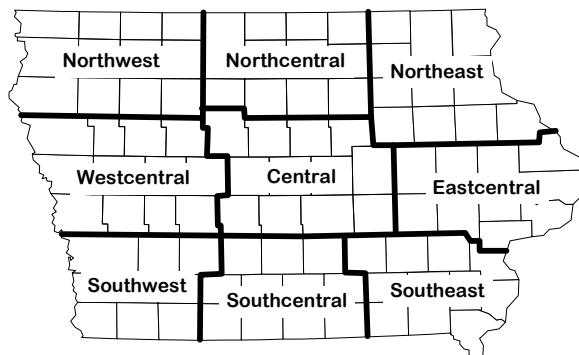


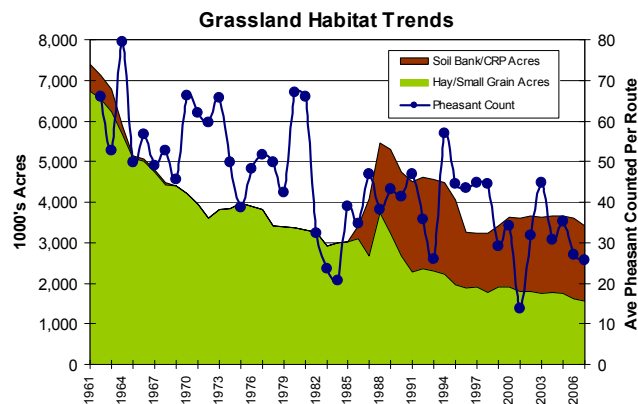
Figure 1. August Roadside Survey Regions

UPLAND HABITAT TRENDS IN IOWA

Two factors determine the abundance and distribution of upland game populations in Iowa - **weather** and **habitat**. Past versions of the August Roadside Survey have only included weather trends as they have the most impact on the upland game populations from year to year. Habitat trends are a more gradual change and the influence of habitat changes on upland populations are only evident after looking at years of surveys.

Information from USDA shows that between 1990 and 2005 Iowa has lost 2,496 mi² of pheasant habitat. To put this loss of habitat in perspective 2,496 mi² is a strip of habitat over **8 miles wide** that would stretch from **Omaha**

to Davenport! From an upland game perspective Iowa can not produce the numbers of upland birds she did only 15 years ago because of the loss of upland habitats.



Pheasants show great variation annually due to weather, but the trend through time is linked to habitat. Total habitat (hay+CRP) in 2007 (~3M acres) is very close to pre-CRP in 1985 (3M acres)!!

Figure 2. Iowa grassland habitat trends.

2007-08 IOWA WEATHER SUMMARY

Iowa tends to see increases in pheasant numbers with mild winters and warm, dry springs and declines with snowy winters and cool, wet springs. This year was one of Iowa's snowiest and wettest years on record (Table 1). The winter of 2007-08 ranks as the 10th snowiest in 121 yrs of records. Many locations in eastern Iowa shattered old snowfall records, including Dubuque with 85" of snowfall. Over-winter hen losses were estimated at greater than 60% in some regions. In addition to significant snowfall many regions also report ice – eliminating waste grains as a food source (see NE Iowa winter photo).

Table 1. Iowa 2007-08 weather summary.

Weather Variables	Survey Regions									STATE
	NW	NC	NE	WC	C	EC	SW	SC	SE	
Winter Weather*										
Total Snowfall (")	36.0	35.6	58.7	29.4	42.2	58.3	26.3	47.2	45.3	42.0
Departure**	9.4	6.7	29.4	2.3	17.0	34.0	4.9	25.5	22.5	16.7
Spring Weather										
Total Rainfall (")	7.9	11.4	15.2	10.5	13.8	13.4	11.3	10.8	11.1	11.7
Departure	1.9	4.5	8.1	3.5	6.5	6.1	3.9	3.2	3.5	4.6
Mean Temperature (F)	50.4	50.2	50.8	52.1	52.4	52.4	54.2	54.2	54.4	52.2
Departure	-3.2	-3.4	-2.6	-3.7	-2.5	-3.3	-3.1	-2.6	-3.1	-3.2

* Winter weather period (1Dec.-31Mar.) and spring period (1April-31May).

** Departures calculated from 1961-1990 norm.

Spring weather conditions during the 2008 nesting period (April-May) were dismal with all regions reporting above normal rains and below normal temperatures. Widespread flooding was reported in all regions except the NW and WC regions. Many nests in waterways, CRP wetlands, and road ditches were flooded. To add insult to injure June (2nd wettest) and July (16th wettest) also saw record rainfall. The first six months of 2008 were the wettest recorded since statewide records began in 1873!! Needless to say this combination of weather patterns had a devastating effect on upland game populations in 2008.



Figure 3. Early December snow and ice in NE Iowa force birds far from cover in search of food.

2008 ROADSIDE SURVEY CONDITIONS

The August Roadside Survey yields the most consistent results when surveys are completed on mornings with heavy dew, no wind, and sunny skies. Weather conditions during the 2008 survey were favorable, particularly for dew with the abundance of soil moisture this summer. Staff reported 93% of routes were started with heavy dew in 2008 compared to 83% in 2007, while 90% of routes were started under sunny skies this year compared to 71% in 2007. Temperatures at the start of routes were consistently cooler than last year.

RING-NECKED PHEASANT

Statewide. This year the statewide index is 18.3 birds/route and represents the second lowest statewide pheasant count since the survey was standardized in 1962 (Table 2, Figure 4). This year's index is 37% below Iowa's 10-year average and 59% below the historic average (Table 3). This decline was expected given the weather Iowa experienced this past year (Table 1). Counts were significantly lower in all regions except NW, WC, and SC survey regions in 2008.

Iowa research shows over winter survival, brood survival, and nest success are the major factors influencing annual changes in pheasant numbers. Looking at the statewide numbers total hens counted was significantly lower (Table 2) than last year as were age ratio's (chicks per adult hen) on the survey. Lower hen numbers suggests very poor over winter survival. Statewide staff reported an average of 3.1 young per hen in 2008 versus 3.4 in 2007, suggesting the 2008 nest/brood-rearing period was not

conducive to good reproduction. These trends agree well with the weather patterns seen in Iowa over the past year – snowier winter with a wetter than normal spring (Table 1).

Based on this year's statewide index of 18.3 birds/route, Iowa pheasant hunters should harvest between 400,000-500,000 roosters this fall. If this harvest forecast holds true it will mark the first time in history Iowa has seen 5 consecutive harvests of less than 1 million roosters (Figure 4). While pheasant counts this year are well below what the wildlife bureau and most hunters would like to see in Iowa – rest assured as long as Iowa has well managed CRP habitat the populations will bounce back. Iowa had low counts in 1984 and 2001 (Table 3) and the population rebounded in 2-3yrs. The key was good weather and good habitat, unfortunately Iowa continues to lose CRP habitat (Figure 2). According to USDA numbers Iowa lost 228 mi² of CRP in October of 2007, she will lose another 209 mi² this October and another 177 mi² in October 2009. Combined this equals a strip of habitat 2 miles wide that would stretch across Iowa from Omaha to Davenport. Hunters need to let their US congressman know how important CRP is to their sport, as demands for ethanol have put tremendous pressure on CRP.

Northern Regions. Routes in the NW region averaged 52 birds/route in 2008, higher than in 2007, but the trend was not a significant increase as some counts were higher than last year, but some were not (Table 2, Figure 6). Counts this year are at the 10-year mean and 28% above the long-term average (Table 3). Total hen numbers and young per hen were similar to 2007, suggesting normal over winter survival and nesting. The NW region had the highest bird densities of any region in 2008. Excellent habitat and abundant public lands should offer some excellent hunting this fall. Staff reported good bird numbers in Clay, Dickinson, Emmet, Sioux, Palo Alto, and Lyon, counties (Figure 7).

Counts in the NC region were down significantly (-30%) compared to 2007 (Table 2, Figure 6). This year's count is 31% below the 10-year average for the region and 49% below the long-term average (Table 3). Staff saw significantly fewer total hens and age ratio's (chicks/hen) were also lower, suggesting lower overwinter survival less nesting success than in 2007 (Table 2). Staff reported better bird numbers in Cerro Gordo, Hancock, Humboldt, and Winnebago counties (Figure 7).

Similar to the NC region, staff in the NE region reported significantly (-50%) fewer pheasants, 9 birds per route, in 2008 (Table 2, Figure 6). This year's count is 46% below the 10-year average and 79% below the historic average for the region (Table 3). Staff reported a significant decline in total hens and only 2.3 chicks per hen. This data suggest poor overwinter survival and a poor reproductive effort in the region. Given the severe snow/ice and rainfall this region received this past year these trends are not surprising (Table 1). Staff reported some birds in Clayton and Howard, and counties in 2008.

Central Regions. Staff in the WC region reported an average of 21 birds/route in 2008, 20% lower than the 2007 estimate (Table 2, Figure 6). Similar to the NW region the change was not significant as some routes were up and others were down. This year's count is 15% below the 10-year average and 58% below the historic average for the region (Table 3). The total hens counted by staff was lower, but age ratio data was similar to 2007 suggesting hens in the region had some successful nesting (Table 2). Better bird numbers were reported in Audubon, Calhoun, Carroll, and Shelby counties (Figure 7).

Staff in the Central region of Iowa reported significantly fewer birds (-50%) in 2008 (Table 2, Figure 6). Counts in this region averaged 19 birds/route, which is 53% below the 10-year average and 61% below the long-term average (Table 3). Winter survival was significantly lower with fewer hens reported on routes in 2007, as was brood-rearing with only 3.1 chicks per hen in 2008 vs 3.6 in 2007. Some of the better counts in 2008 came from Hamilton, Poweshiek, and Webster counties (Figure 7).

Staff this year observed only 7.4 birds per route in the EC region. This is significantly lower (-72%) than last years count and represents a new all time low count for the region (Tables 2 and 3). The count is 72 and 84 % below the 10-year and long-term averages, respectively (Table 3). Staff reported significantly fewer hens on routes in 2008 indicative of the severe winter in this region (Tables 1 and 2), however staff reported similar chicks per adult hen suggesting hens that did survive the winter had some nesting success – unfortunately very very few hens survived the winter in this region. Staff did not report any areas with good pheasant numbers.

Southern Regions. Dismal counts prevail across the entire southern third of Iowa this year.

Counts in the SW and SC regions set new all time lows, while the count in the SE region was the second lowest ever recorded (Tables 2 and 3). Data from staff on chick and hen numbers suggest a very poor reproductive effort and poor over winter hen survival in all 3 regions in 2008 (Table 2). Counts in all 3 regions declined for the 4th straight year in a row (Table 3). Staff did not report an abundance of birds anywhere in the southern region in 2008.

Nesting season rainfall (inches) by decade in southern Iowa roadside survey regions.

	SW	SC	SE
<i>Normal</i> <i>(1960-90)</i>	7.46	7.63	7.53
1940	7.18	7.18	7.66
1950	7.05	7.21	7.03
1960	7.34	7.73	7.54
1970	7.69	8.15	8.40
1980	7.40	7.00	6.82
1990	9.09	9.61	9.14
2000	9.15	8.57	8.39

While this region of Iowa has an abundance of habitat in the form of CRP, most is located on private land and it has been enrolled in the program for 20+ yrs with little active management reducing its value for upland wildlife. However, lack of management is only part of the problem in this region. Nesting season weather patterns also appear to have shifted in the region. The table at the right shows the amount of April/May rainfall has increased significantly during the last 2 decades over the NOAA computed normal (1961-90) value. Since pheasant reproduce best during dry – warm springs this trend toward wetter conditions is likely reducing the reproductive potential of the population. Good population counts in all 3 regions in the 1980's reflect the drier weather pattern experienced during that decade and lower counts with wetter weather prevail in the 1990's thru 2008 (Table 3).

BOBWHITE QUAIL

Statewide bobwhite quail numbers declined significantly (-45%) in 2008 (Table 2, Figure 6). This year's index is -27% below the 10 year average of 0.6 quail per route and well below the historic figure of 1.5 quail per route (Table 3). In Iowa's primary quail range, SW, SC, and SE regions, populations showed a significant decrease in the SE region, a downward trend in the SC region, and an increasing trend in the SW region (Table 2). Given the severity of the 2007-08 winter with intermittent coatings of ice, a general decline in quail numbers was expected. Iowa's quail population remains in a long-term decline (Figure 5). Changing land-use, mainly intensified agriculture, loss of small grains, and forest succession are the leading factors in the decline. Unfortunately, this is a trend that is likely to continue in the future, unless programs like CRP can be modified to provide for the habitat needs of quail. Pockets of quail will likely only be found in the best coverts across the southern 3 regions this fall (Figure 7).

GRAY PARTRIDGE

The 2008 gray partridge count was 1.1 birds per 30 miles, down significantly from 2007 counts (Table 2, Figure 5). This year's statewide estimate is -52% below the 10-year mean and -74% below the long-mean (Table 3, Figure 5). Most regions reported significant declines. Only the NW and NC regions reported more partridge in 2008, but routes were highly variable and thus not significant. Typically partridge recruitment is highest in Iowa when spring/summer precipitation is well below normal. Years with average to above average rainfall, like 2008, generally are not conducive to good partridge reproduction. The NW and NC regions had the highest average partridge counts in 2008. Better counts came from Emmet, Sioux, Lyon, Kossuth, Humboldt, and Winnebago counties (Figure 7).

COTTONTAIL RABBIT

Cottontail rabbit numbers, 6.4 rabbits/route, increased significantly from last year's estimate of 4.4 rabbits/route (Table 2, Figure 5). This year's count is right at the short and long term averages for rabbit numbers in Iowa (Table 3). Regionally rabbit numbers increased significantly in NW, WC, C,

SW, and SC regions and declined significantly in the NE and EC regions (Table 2). Generally rabbit numbers increased across the western two-thirds of Iowa and declined in the eastern third. The decline in the eastern third of Iowa is most likely related to the severe winter and loss of adult breeding females. As a general rule cottontails reproduce very well in years with abundant spring/summer rains and this year was no exception. Cottontail hunters should focus their efforts in Warren, Clarke, Lucas, Monroe counties as well as counties along the Missouri border in SC Iowa (Figure 7).

WHITE-TAILED JACKRABBIT

No jackrabbits were counted on this year's survey (Table 2). This is the first time since the survey was standardized in 1962 that no jackrabbits were counted on any survey route. The jackrabbit trend (Table 3, Figure 5) reflects the continued loss of their preferred habitats (i.e., small grains, pasture, hayfields) in the NW, NC, WC and C regions.

Table 2. Mean numbers of wildlife observed per 30-mile route on the August roadside survey in 2007 and 2008. Only routes run under heavy to moderate dew conditions, in both years, are used for statistical comparisons.

REGION	n	RINGNECKED PHEASANTS										BOBWHITE QUAIL		GRAY PARTRIDGE		RABBITS		
		TOTAL		HENS W/O		HENS W/		CHICKS/		TOTAL	BIRDS	COVEYS	TOTAL	BIRDS	COVEYS	EASTERN COTTONTAIL	WHITETAILED JACKRABBIT	
		PHEASANT	COCKS	BROODS	BROODS	BROODS	BROODS	HENS	CHICKS									BROODS
Northwest	26																	
2008		52.4	5.7	2.7	5.7	8.4	38.3	8.6	4.6		0.00	2.38	0.12	4.04	0.00			
2007		41.3	3.6	1.7	5.1	6.7	31.0	7.7	4.2		0.04	2.19	0.38	1.65	0.04			
% CHG		26.7%	58.3%	60.6%	12.0%	24.1%	23.6%	12.2%	7.6%		-100.0%	8.7%	-68.4%	144.8%	-100.0%			
Northcentral	27																	
2008		25.4	3.9	1.7	2.6	4.3	17.2	4.0	4.2			4.11	0.33	2.78	0.00			
2007		36.3	2.5	1.0	4.9	5.9	28.0	6.4	4.3			2.46	0.27	2.69	0.08			
% CHG		-30.0%	57.2%	67.0%	-45.8%	-26.5%	-38.5%	-37.3%	-2.1%			67.1%	22.2%	3.3%	-100.0%			
Northeast	16																	
2008		9.2	0.9	0.6	0.9	1.6	6.8	1.6	3.7			0.00	0.00	2.75	0.00			
2007		18.4	1.9	0.4	2.6	3.1	13.4	3.4	3.9			2.38	0.25	4.25	0.03			
% CHG		-50.0%	-54.6%	43.2%	-64.3%	-49.0%	-49.6%	-51.8%	-4.4%			-100.0%	-100.0%	-35.3%	-100.0%			
West Central	23																	
2008		21.2	2.6	1.3	2.4	3.7	14.9	2.9	4.9		0.13	1.09	0.04	6.09	0.00			
2007		26.6	1.7	1.0	3.1	4.1	20.8	4.8	4.4		0.82	2.00	0.18	3.55	0.03			
% CHG		-20.2%	53.0%	30.0%	-21.4%	-8.6%	-28.4%	-39.6%	10.1%		-84.1%	-45.5%	-77.8%	71.5%	-100.0%			
Central	30																	
2008		18.6	2.7	1.1	1.9	3.0	13.0	2.7	4.4			0.40	0.00	5.07	0.00			
2007		37.0	2.6	1.2	4.9	6.0	28.4	6.4	4.3			3.03	0.97	2.69	0.03			
% CHG		-49.6%	3.1%	-3.4%	-61.5%	-50.2%	-54.3%	-58.3%	2.3%			-86.8%	-100.0%	88.5%	-100.0%			
Eastcentral	19																	
2008		7.4	0.8	0.2	0.8	1.0	5.6	1.1	5.0		0.00	0.21	0.05	3.47	0.00			
2007		26.7	1.7	1.3	3.1	4.3	20.7	4.8	4.5		1.33	0.94	0.06	6.78	0.03			
% CHG		-72.4%	-49.7%	-87.5%	-74.2%	-78.1%	-73.0%	-77.0%	11.9%		-100.0%	-77.7%	-16.7%	-48.8%	-100.0%			
Southwest	15																	
2008		5.8	0.9	0.9	0.8	1.7	3.2	0.9	3.4		2.40	0.20	0.05	9.93	0.00			
2007		11.6	1.2	0.6	1.5	2.1	8.2	2.1	3.6		0.71	0.07	0.06	5.86	0.03			
% CHG		-49.9%	-23.1%	35.9%	-46.7%	-22.0%	-61.0%	-59.3%	-5.6%		238.0%	185.7%	-16.7%	69.5%	-100.0%			
Southcentral	24																	
2008		4.6	0.6	0.1	0.5	0.5	3.5	0.8	4.3		1.08	0.13	0.05	17.00	0.00			
2007		5.7	0.8	0.5	0.6	1.1	3.8	0.8	4.2		1.76	0.10	0.06	6.33	0.03			
% CHG		-19.2%	-23.7%	-84.6%	-19.3%	-50.9%	-9.2%	-1.3%	2.1%		-38.6%	30.0%	-16.7%	168.6%	-100.0%			
Southeast	22																	
2008		5.3	1.2	0.6	0.5	1.1	3.0	0.8	3.1		1.32	0.14	0.07	7.36	0.00			
2007		20.4	2.2	0.6	2.6	3.1	15.1	3.5	5.0		3.57	0.29	0.07	8.29	0.03			
% CHG		-74.2%	-43.8%	3.5%	-80.5%	-65.3%	-80.5%	-78.1%	-37.8%		-63.0%	-51.7%	-16.7%	69.5%	-100.0%			
Statewide	202																	
2008		18.3	2.4	1.1	2.0	3.0	12.9	2.8	4.3		0.47	1.07	0.07	6.44	0.00			
2007		26.7	2.1	1.0	3.4	4.3	20.3	4.8	4.3		0.85	1.61	0.28	4.39	0.02			
% CHG		-31.6%	11.3%	11.3%	-41.8%	-30.0%	-36.4%	-40.3%	0.2%		-44.7%	-33.5%	-75.0%	46.7%	-100.0%			

BOLD numbers indicate a mathematically significant change from the previous year ($P < 0.10$, Wilcoxon Signed Rank Test). Changes in covey numbers are not tested.

Table 3. Historical upland wildlife numbers from the August Roadside Survey. Numbers represent the average number of animals counted on 30-mile routes^a.

YEAR ^a	PHEASANTS												BOBWHITE				GRAY				EASTERN				WHITETAILED					
	NORTH			NORTH			WEST			CENTRAL			EAST			SOUTH			SOUTH			CENTRAL			EAST			STATE		
	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH	WEST	CENTRAL	NORTH
1962	84.7	95.5	85.3	85.0	74.6	32.3	44.4	127.4	38.7	19.7	52.7	65.9	12.8	65.9	5.2	0.62	1.13	5.2	0.45	0.28	0.31	0.15	0.07	0.11	0.07	0.11	0.07	0.11	0.07	0.11
1968	38.0	56.0	56.6	53.5	52.2	64.3	127.4	38.7	19.7	52.7	65.9	12.8	65.9	5.2	0.62	1.13	5.2	0.45	0.28	0.31	0.15	0.07	0.11	0.07	0.11	0.07	0.11	0.07	0.11	0.07
1969	18.8	44.7	62.5	42.2	57.6	57.2	77.9	44.2	25.2	45.5	45.5	45.5	25.2	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5	45.5
1970	39.2	53.0	59.6	56.1	87.8	91.7	129.1	63.8	40.5	66.2	2.95	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4	4.4
1971	34.6	45.2	49.0	66.2	82.6	104.3	101.6	49.7	48.4	62.0	2.64	1.44	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
1972	37.9	44.6	61.0	61.4	73.2	88.6	112.3	54.3	25.8	59.6	2.26	1.92	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
1973	47.0	56.9	65.4	66.3	88.7	103.5	72.4	54.3	30.2	65.8	2.54	1.87	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
1974	46.6	53.2	52.5	60.5	40.0	55.9	90.1	49.6	16.8	49.7	2.11	1.82	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1	4.1
1975	10.5	28.7	52.3	64.3	43.2	64.3	51.0	45.4	27.4	38.8	1.98	1.98	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
1976	14.8	42.2	68.1	44.8	54.9	75.4	61.7	49.2	28.7	48.2	2.19	2.14	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
1977	26.9	44.2	86.7	56.9	50.8	78.5	75.1	44.3	24.4	51.7	2.69	4.70	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3	4.3
1978	36.3	26.1	68.8	67.8	50.5	63.2	76.7	45.5	30.5	49.7	1.87	3.73	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
1979	40.1	29.6	44.8	49.4	39.2	39.6	80.9	51.5	21.8	42.4	0.66	5.59	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
1980	51.2	61.7	81.2	98.7	72.2	63.5	82.1	68.9	37.2	67.0	2.05	8.81	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2	4.2
1981	66.4	53.5	83.6	92.9	57.8	72.9	97.1	57.8	35.2	65.9	2.60	8.08	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
1982	26.7	27.9	38.9	55.5	23.1	20.9	41.6	47.7	19.3	32.3	0.79	4.21	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
1983	9.6	12.8	21.7	21.6	13.3	25.3	42.6	51.1	27.5	23.7	1.44	2.65	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
1984	8.8	11.1	19.2	22.1	14.4	24.5	23.8	38.5	26.4	20.6	0.66	4.22	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
1985	21.6	28.0	36.4	40.0	32.7	26.0	59.2	72.6	42.0	38.9	1.37	9.75	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
1986	27.5	20.4	48.2	31.2	24.8	29.0	49.7	65.2	27.2	34.8	1.42	9.62	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7	7.7
1987	40.2	36.8	59.7	61.4	41.1	33.2	58.5	64.2	39.0	46.8	2.70	14.93	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
1988	33.6	35.0	45.1	60.8	29.6	26.0	45.7	49.8	29.8	38.1	1.96	19.00	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
1989	25.3	36.5	52.1	69.9	57.1	35.3	38.6	40.0	39.0	43.2	1.91	17.27	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
1990	34.3	49.4	63.9	57.9	44.3	24.7	44.5	31.7	27.3	41.2	1.48	8.75	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
1991	37.3	45.3	48.8	77.6	41.6	33.3	61.2	49.4	41.6	46.8	1.34	4.59	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
1992	24.4	50.5	30.5	44.0	42.1	37.8	29.4	23.6	34.2	35.8	1.07	3.58	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
1993	15.8	21.4	15.2	55.2	23.8	25.0	34.3	24.0	28.1	25.9	0.96	0.85	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
1994	45.0	74.1	33.3	83.3	55.6	67.8	47.3	46.0	56.7	56.9	1.58	6.17	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
1995	26.0	63.2	37.6	44.7	54.3	54.3	43.7	27.8	43.2	44.6	1.37	2.47	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
1996	54.7	61.8	29.5	45.2	49.8	59.4	29.8	19.5	28.2	43.4	0.51	2.37	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
1997	46.1	62.0	41.2	37.3	54.7	47.4	31.7	28.8	41.3	44.8	0.77	5.10	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9
1998	74.2	56.7	43.1	33.9	49.6	53.9	18.1	15.7	41.7	44.6	0.72	6.42	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1	5.1
1999	42.7	33.6	21.6	19.5	37.9	36.0	17.5	12.9	27.0	29.1	0.57	2.83	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9	5.9
2000	60.6	33.3	14.9	29.0	50.3	37.0	25.5	19.3	22.0	34.3	0.57	2.53	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
2001	22.4	16.0	6.2	8.4	22.0	19.0	12.0	7.3	4.6	13.9	0.29	1.90	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8	3.8
2002	47.0	42.9	13.6	32.0	49.9	32.0	15.7	11.7	22.6	31.7	0.39	2.82	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3	5.3
2003	81.2	67.3	20.7	36.1	61.2	35.6	29.3	21.8	28.2	44.9	0.89	2.76	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8	8.8
2004	54.4	34.4	19.0	21.5	35.6	24.4	24.9	19.6	24.4	29.7	0.93	2.12	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
2005	63.5	42.3	25.3	32.0	49.9	25.9	28.9	12.6	23.5	35.1	0.69	2.79	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6

Statistics:

10 Year Avg.

Long-term Avg.

Percent Change from:

Statewide Pheasant Trends

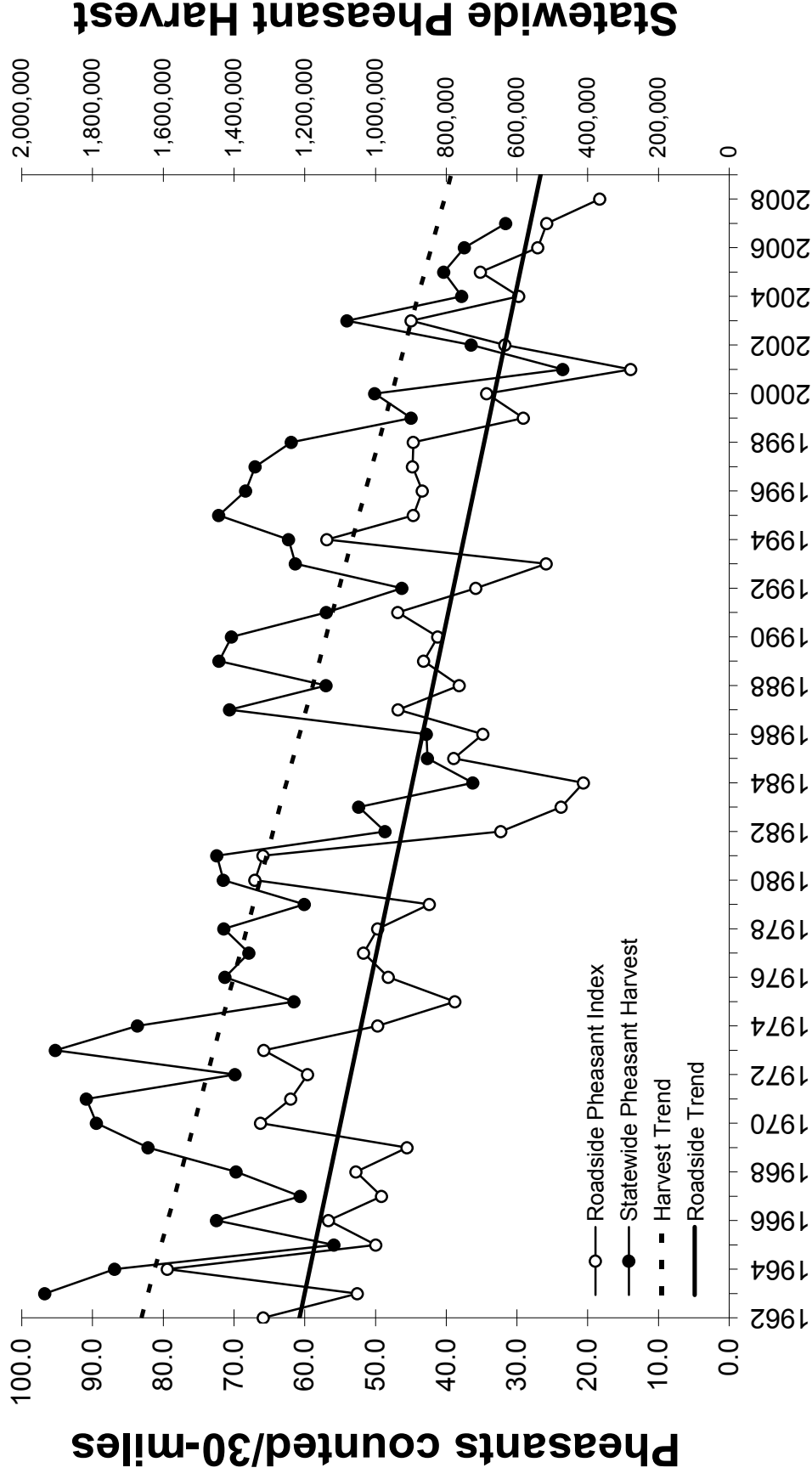


Figure 4. Mean number of pheasants counted on 30-mile August roadside survey routes, statewide, 1962-present compared to total statewide pheasant harvest.

Statewide Upland Game Trends

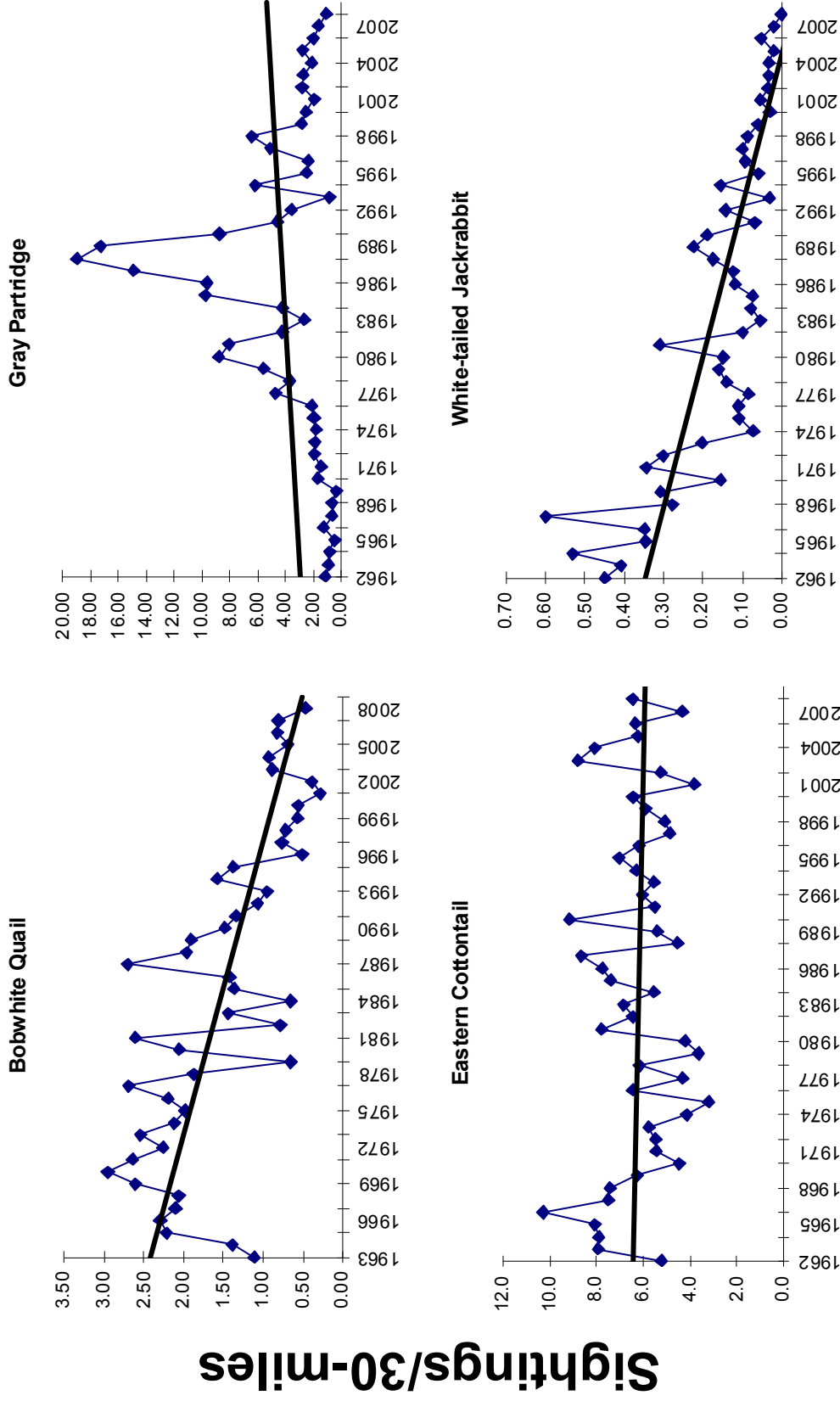


Figure 5. Mean number of quail, partridge, cottontails, and jackrabbits sighted per 30 mile route on the August roadside survey, statewide, 1962 to the present.

2008 August Roadside Survey

Statewide

	2007	2008	Change
Pheasant	26.7	18.3	-31.6%
Quail	0.85	0.47	-44.7%
Partridge	1.6	1.1	-33.5%
Cottontail	4.4	6.4	46.7%

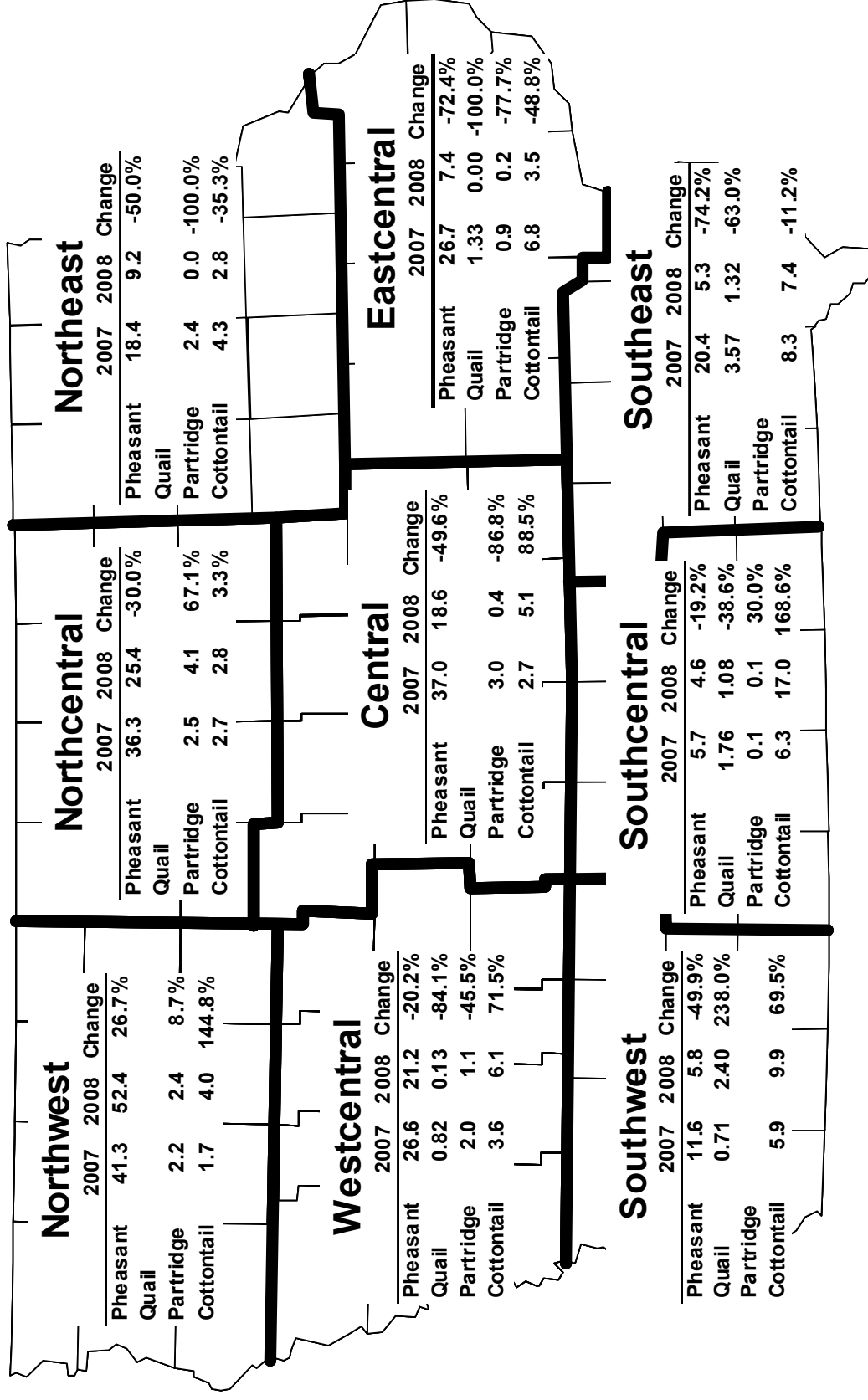
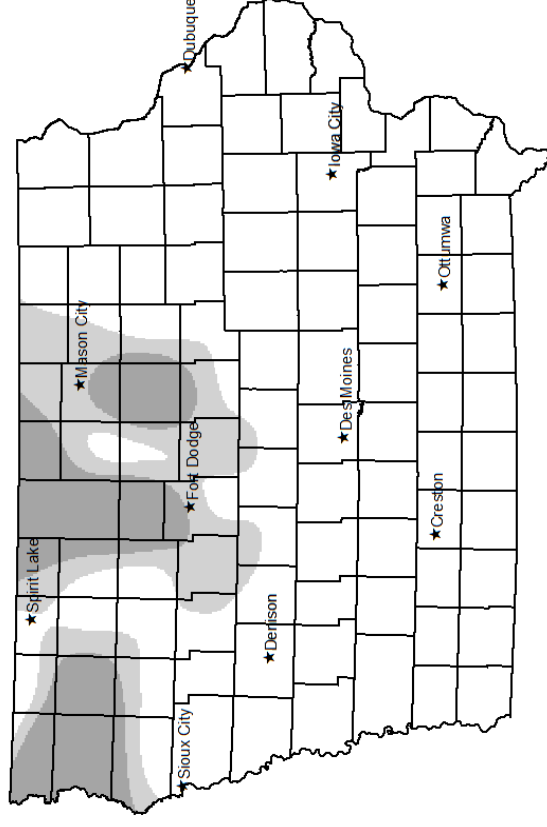
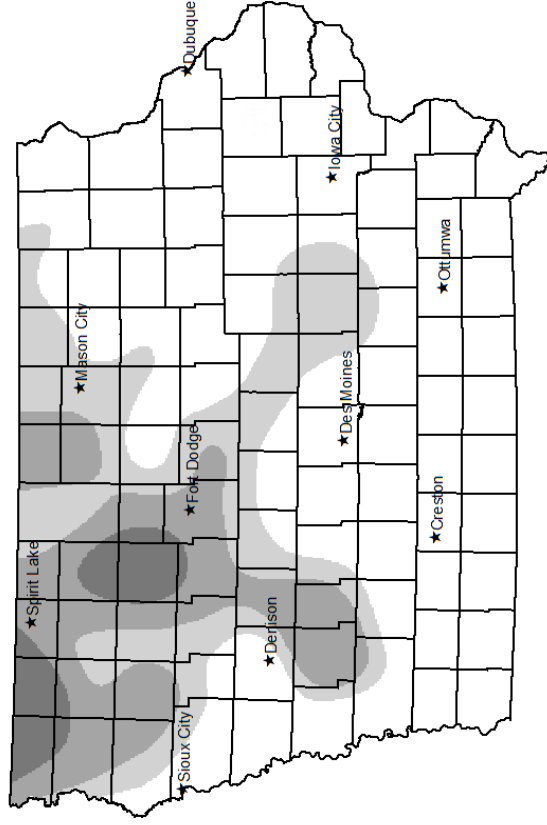


Figure 6. Numbers indicate the average number of animals counted on 30 mile routes in each region (e.g., the northwest region counted an average of 52.4 pheasants on 30-mile survey routes in 2008). Data from 202 of 217 total routes.

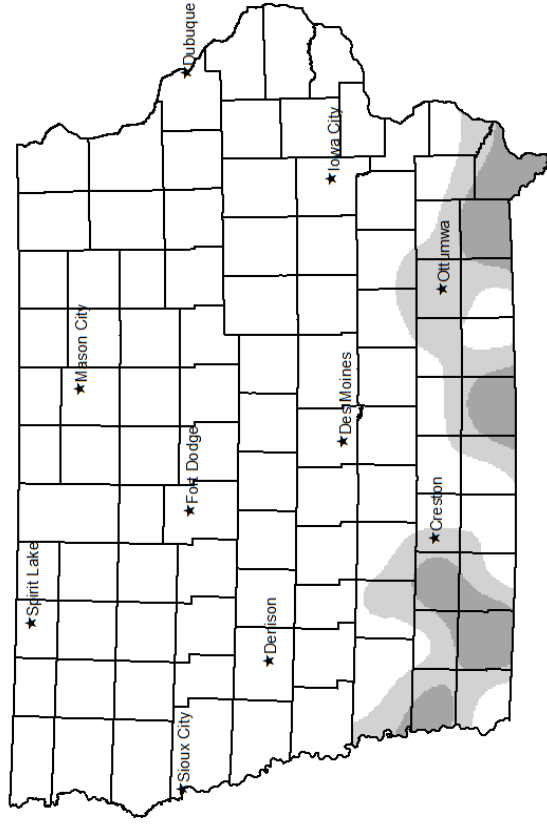
2008 GAME DISTRIBUTION

GRAY PARTRIDGE

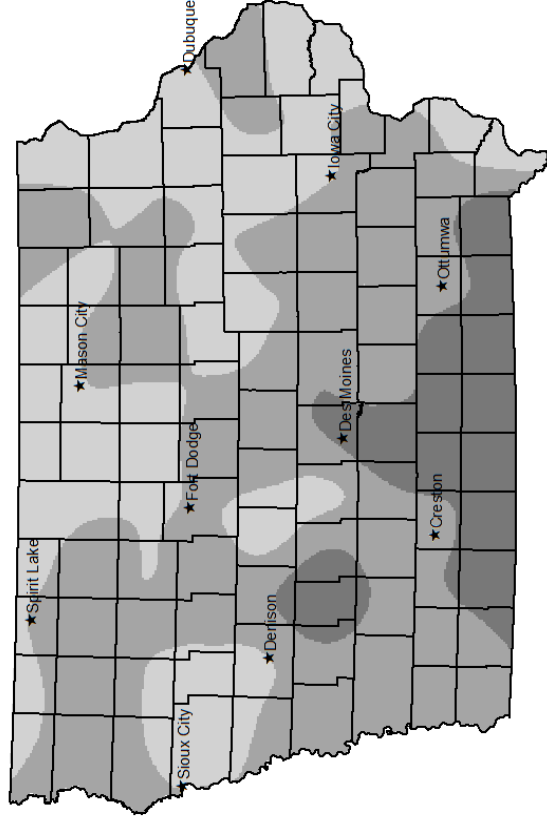
PHEASANT



QUAIL



COTTONTAIL



EXCELLENT
 GOOD
 FAIR
 POOR

Figure 7. Iowa 2008 small game distribution maps represent generalized game abundance. There can be areas of low game abundance in regions with "high" counts and vice versa.